

REMARKS

This application has been reviewed in light of the Office Action mailed January 15, 2010. Reconsideration of this application in view of the below remarks is respectfully requested. Claims 1 – 8, 22 – 25, 38 – 41, 46 – 54, 84 and 85 are pending in the application with Claims 22 – 25, 38 – 41 and 46 – 49 having been previously withdrawn. By way of the present amendment Claims 1, 2, 74 and 85 are amended. No new subject matter is introduced into the disclosure by way of the present amendment.

I. Rejection of Claims 1 – 4, 50 – 52, 74, 75, 84 and 85 Under 35 U.S.C. § 102(b)

Claims 1 – 4, 50 – 52, 74, 75, 84 and 85 are rejected under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Publication No. 2002/0057844 (hereinafter, “Sirohey”).

The features recited in the claims provide higher speed processing. More specifically, every time a set of LH, HL and HH subband coefficients are decoded, those coefficients are immediately subjected to an inverse wavelet transfer operation on a register, allowing the reduction in the amount of accessed real memory.

In contrast, Sirohey teaches that codes of LH, HL, and HH coefficients belonging to the same hierarchy and the same spatial position are concatenated in the sequential order of scan lines to generate AC-component codes. However, Sirohey teaches neither of the features recited in the claims of the present invention that “...two-dimensional Haar wavelet transforming means for dividing a two-dimensional signal into subbands as a plurality of frequency regions in a predetermined signal scanning sequence to transform a predetermined number of the two-dimensional signals into a predetermined number of coefficients...” and that “...coefficient extracting means for, whenever said two-dimensional Haar wavelet transforming means transforms a predetermined number of two-dimensional signals into a predetermined number of

coefficients in the course of the transform process, extracting sets of AC-component coefficients from the coefficients obtained by the transform, for every predetermined number of sets of coefficients which belong to a same hierarchy and a same spatial position...”

With regard to claim 1, the Examiner has commented that Sirohey teaches a “two-dimensional Haar wavelet transforming means transforming a predetermined number (the number “n” in Figs. 21A, 21B...). However, “a predetermined number” recited in Applicant’s claims refers to literally primitive signals (pixels), not the number of hierarchies of subbands.

Further, the present rejection interprets “a predetermined number of coefficients” as LL, LH, HL, and HH subbands (namely four subbands). However, in the claims “a predetermined number of coefficients” is directed to coefficients, not a predetermined number of subbands.

Consequently, Applicant submits that Sirohey fails to disclose or suggest the recited features of “...two-dimensional Haar wavelet transforming means for dividing a two-dimensional signal into subbands as a plurality of frequency regions in a predetermined signal scanning sequence to transform a predetermined number of the two-dimensional signals into a predetermined number of coefficients...” and “...coefficient extracting means for, whenever said two-dimensional Haar wavelet transforming means transforms a predetermined number of two-dimensional signals into a predetermined number of coefficients in the course of the transform process, extracting sets of AC-component coefficients from the coefficients obtained by the transform, for every predetermined number of sets of coefficients which belong to a same hierarchy and a same spatial position...”

In addition, regarding claim 4, the Examiner has confused the Haar wavelet transform on pixels of $(2m \times 2)$ with the S-transform of $(4,2)$ or $(2+2,2)$. The $(4,2)$ transform or

(2+2,2) transform is such a process as taught in A.R. Calderbank et al., “*Lossless Image Compression Using Integer to Integer Wavelet Transforms*”, and is distinctly different from a “Haar wavelet transform on a (2m x 2) pixel matrix”.

Also, due to misunderstanding regarding this point, Applicant submits that the present Office Action fails to appropriately consider the feature of applying Haar wavelet transform to (2m x 2) pixels and then immediately encoding the resultant coefficient sets, as recited in the claims.

It is well-settled by the Courts that “[A]nticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim.” Lindemann Maschinenfabrik GMBH v. American Hoist and Derrick Company, et al., 730 F.2d 1452, 221 USPQ 481 (Fed. Cir., 1984).

Therefore, as demonstrated above, because Sirohey does not disclose each and every element recited in the present claims, Applicant respectfully submits that the rejection has been obviated. Accordingly, Applicant respectfully requests withdrawal of the rejection with respect to Claims 1 – 4, 50 – 52, 74, 75, 84 and 85 under 35 U.S.C. § 102(b).

II. Rejection of Claims 5 – 8, 53 and 54 Under U.S.C. § 103(a)

Claims 5 – 8, 53 and 54 are rejected under 35 U.S.C. § 103(a) as allegedly obvious over Sirohey in view of U.S. Patent No. 7,120,306 issued to Okada. However, Okada fails to overcome the deficiencies identified above in Sirohey.

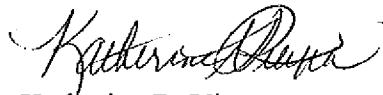
Therefore, Sirohey and Okada, taken alone or in any proper combination, fail to disclose or suggest features recited in Claims 5 – 8, 53 and 54, which depend from independent Claims 1, 4, and 50. Accordingly Applicant respectfully requests withdrawal of the rejection with respect to Claims 5 – 8, 53 and 54 under 35 U.S.C. § 103(a) over Sirohey in view of Okada.

CONCLUSIONS

In view of the foregoing amendments and remarks, it is respectfully submitted that all claims presently pending in the application, namely, Claims 1 – 8, 50 – 54, 74, 75, 84 and 85 are believed to be in condition for allowance and patentably distinguishable over the art of record.

If the Examiner should have any questions concerning this communication or feels that an interview would be helpful, the Examiner is requested to call Applicant's undersigned attorney at the number indicated below.

Respectfully submitted,



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